

Minnesota Pollution Control Agency

October 18, 1984

Mr. Donald J. Thimsen
Manager, Environmental Engineering
Engineering Policy
General Mills, Incorporated
P.O. Box 1113
Minneapolis, Minnesota 55440

Dear Mr. Thimsen:

Re: Correction to General Mills Board Item scheduled for October 23, 1984

Enclosed you will find a copy of a Remedial Action Plan (RAP) for the General Mills site in Minneapolis. This RAP should replace the incorrect RAP which is now present in the existing Board item. There are no other changes in the Board item. I apologize for the confusion.

Sincerely,

for
Thomas J. Radtowski
Executive Director

TJK:mec

Enclosure

cc: William Haun, General Mills, Inc.
Ken Ohm, General Mills, Inc.
Glen Kiecker, Minneapolis Pollution Control
Greg Lie, Minnesota Department of Public Works
Karen Vendl, U.S. Environmental Protection Agency, Region V
Larry Kyte, U.S. Environmental Protection Agency, Region V
Dennis Vaughn, Henkel Corporation
G. Robert Johnson, Popham, Haik, Schnobrich, Kaufman and Doty, Limited

Phone: _____

1935 West County Road B2, Roseville, Minnesota 55113-2785

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EXHIBIT A
REMEDIAL ACTION PLAN
TABLE OF CONTENTS

	<u>Page</u>
PART I -- GROUND WATER REMEDIAL ACTION PROGRAM	
Introduction and Purpose	1
1.0 Ground Water Pump-Out Systems	1
1.1 Glacial Drift Pump-Out System	2
1.1.1 Contaminant Capture Zone	2
1.1.2 Pump-Out Well Locations	2
1.1.3 Contaminant Capture Zone Modification	3
1.1.4 System Effectiveness Monitoring	4
1.2 Carimona Pump-Out System	4
1.2.1 Contaminant Capture Zone	4
1.2.2 Pump-Out Well Location	5
1.2.3 Contaminant Capture Zone Modification	5
1.2.4 System Effectiveness Monitoring	6
1.3 Effluent Limitations of Water Discharge	6
1.3.1 Glacial Drift Well 109	6
1.3.2 Carimona-Platteville Well 108	7
1.3.3 Glacial Drift Well 110	7
1.3.4 Glacial Drift Wells 111, 112, and 113	8
1.3.5 Water Treatment System	8
1.4 NPDES Permit Application	9
2.0 Implementation of Remedial Actions	9
3.0 Magnolia Remedial Actions	10
PART II - GROUND WATER MONITORING PROGRAM	
Introduction and Purpose	12
1.0 Monitoring Program	12
1.1 Analytical Parameter List	12
1.2 Quality Assurance/Quality Control Plan	12
1.3 Water Level Monitoring	13
1.4 Operation Monitoring	13
1.4.1 Glacial Drift Monitoring	14
1.4.2 Carimona Monitoring	14

TABLE OF CONTENTS
(Continued)

	<u>Page</u>
1.5 Post-Operational Monitoring	15
1.6 Magnolia Monitoring	16
1.7 St. Peter Monitoring	16
1.8 Bedrock Well Monitoring	19
1.9 Reporting	19
2.0 Implementation of Monitoring Program	20
 Attachment A -- Glacial Drift Pump-Out System	 21
Attachment B -- Carimona Pump-Out System	22
Attachment C -- Analytical Program Parameters	23
Attachment D -- Water Level Monitoring Well Locations	
Carimona and Magnolia Wells	24
Glacial Drift Wells	25
Attachment E -- Water Sampling Well Location	
Carimona and Magnolia Wells	26
Glacial Drift Wells	27

PART I -- GROUND WATER REMEDIAL ACTION PROGRAM

INTRODUCTION AND PURPOSE

The purpose of Part I of this Remedial Action Plan (hereinafter referred to as the "RAP") is to define and implement the procedures necessary for minimizing the further migration of volatile organic hydrocarbons and in particular trichloroethylene (TCE) detected near the General Mills absorption pit in the ground water in the glacial drift and the Platteville Formation, and to improve the quality of the ground water in the glacial drift and Platteville Formation in the area of the General Mills absorption pit. This RAP shall be implemented by General Mills, Inc. (hereinafter referred to as "General Mills") pursuant to Part E. of the Order, to which this RAP is appended and made an integral and enforceable part thereof.

1.0 GROUND WATER PUMP-OUT SYSTEMS

General Mills shall design, construct, and operate ground water pump-out systems in the glacial drift and the Carimona Member of the Platteville Formation (Carimona) in accordance with the concepts set forth in the following Sections. General Mills shall, within 90 days of the effective date of the Order, submit a proposed Ground Water Pump-Out System Plan (Plan) to the MPCA Director for approval or modification in accordance with the concepts set forth in the following section pursuant to Part F. of the Order.

The proposed Plan shall contain the following Sections:

- 1.1 Glacial Drift Pump-Out System
- 1.2 Carimona Pump-Out System
- 1.3 Effluent Limitations of Water Discharge
- 1.4 NPDES Permit Application

The proposed Plan shall specify and provide detailed discussions (and engineering plans and specifications where appropriate) as to the methods to be utilized by General Mills to comply with the requirements specified in Sections

1.1 through 1.4 of Part I of this RAP. The proposed Plan shall also provide time schedules for implementation of each of the Sections 1.1 through 1.4 of Part I of this RAP.

1.1 Glacial Drift Pump-Out System

1.1.1 Contaminant Capture Zone.

General Mills shall propose in the Plan the design, construction methods, and operational parameters of a glacial drift ground water pump-out system to remove and treat contaminated ground water from the capture zone in the glacial drift. The capture zone for the glacial drift pump-out system shall be such that ground water in the glacial drift affected by the General Mills absorption pit having a TCE concentration of 270 ug/l or greater. The presently defined limit of the glacial drift ground water having TCE concentrations in excess of 270 ug/l is shown in Attachment A to this RAP.

1.1.2 Pump-Out Well Locations.

The glacial drift pump-out wells shall be placed to capture ground water in the glacial drift capture zone contaminated with TCE in concentrations in excess of 270 ug/l. The Plan shall have one glacial drift pump-out well located in the southeastern corner of the General Mills site (Well 109) and the remaining pump-out wells located downgradient of the General Mills absorption pit. One downgradient pump-out well shall be located in the vicinity of Como Avenue and 20th Avenues (Well 110), and the remaining wells shall be located

in the vicinity of Brook Avenue and 17th Avenue, and Rollins Avenue and 17th and 18th Avenues, (Wells 111, 112, 113). The approximate locations of the glacial drift wells are shown in Attachment A to this RAP. The approximate limits of the capture zone for this pump-out system are also shown in Attachment A to this RAP. The glacial drift pump-out wells shall be a minimum of 4 inches in diameter and shall be screened through the entire saturated thickness of the alluvium in the glacial drift. The Plan shall show the capture zone for the pump-out system and discuss the reasons for the proposed well locations and the operation of the glacial drift ground water pump-out system.

1.1.3 Contaminated Capture Zone Modification.

If, after operation of the glacial pump-out system, the TCE concentration in the glacial drift capture zone is reduced to below 270 ug/l in samples from any glacial drift monitoring or pump-out well, the operation of such pump-out system can at General Mills discretion be adjusted to exclude the area monitored by any such well. Samples shall be collected from the wells in any excluded area in conformance with Section 1.5 of Part II of this RAP, and the operation of the pump-out system shall be adjusted to capture ground water in the area monitored by any well where samples show a TCE concentration of 270 ug/l or greater.

General Mills shall notify the MPCA Director at least thirty (30) days in advance of any proposed modification to the

operation of the glacial drift ground water pump-out system. The MPCA Director shall review, and modify or approve the proposed modification pursuant to Part F. of the Order.

1.1.4 System Effectiveness Monitoring.

General Mills shall propose in the Plan the details of a program to monitor the effectiveness of the glacial drift ground water pump-out system. The effectiveness of the glacial drift ground water pump-out system shall be monitored by taking water level measurements from the network of wells specified in Section 1.3 of Part II of this RAP and collecting and analyzing ground water samples from a network of glacial drift monitoring wells as specified in Section 1.4.1 of Part II of this RAP.

1.2 Carimona Pump-Out System

1.2.1 Contaminant Capture Zone.

General Mills shall propose in the Plan the design, construction methods and operational parameters of a Carimona ground water pump-out system to remove and treat contaminated ground water from the capture zone in the Carimona. The capture zone for the Carimona pump-out system shall include that ground water in the Carimona affected by the General Mills absorption pit having a TCE concentration of 27 ug/l or greater. The presently defined limit of the Carimona ground water having TCE concentrations in excess of 27 ug/l is shown in Attachment B to this RAP.

1.2.2 Pump-Out Well Location.

The Carimona pump-out well shall be placed to capture all ground water in the Carimona capture zone contaminated with TCE in concentrations in excess of 27 ug/l. The Carimona pump-out system in the Plan shall include Well 108 located at the General Mills site as shown in Attachment B to this RAP. The predicted capture zone of this well is also shown in Attachment B to this RAP. The Plan shall show the capture zone for the Carimona pump-out system and discuss the reasons for the proposed well location and the operation of the Carimona pump-out system. The system effectiveness monitoring described in Section 1.2.4 of Part I of this RAP shall be used to determine if an additional well or a revised pumping rate from Well 108 is needed to achieve compliance with Section 1.2.1 of Part I of this RAP.

1.2.3 Contaminant Capture Zone Modification.

If, after operation of the Carimona pump-out system, the TCE concentration in the Carimona capture zone is reduced to below 27 ug/l in samples from any Carimona monitoring or pump-out well, the rate of pumping from such pump-out system can be adjusted to exclude the area monitored by any such well. Samples shall be collected from the monitoring wells in any excluded area in conformance with Section 1.5 of Part II of this RAP and the pumping rate from the Carimona pump-out system shall be adjusted to capture ground water in the area monitored by any well where samples show a TCE

concentration of 27 ug/l or greater.

General Mills shall notify the MPCA Director at least thirty (30) days in advance of any proposed modification to the operation of the Carimona ground water pump-out system. The MPCA Director shall review, and modify, or approve the proposed modification.

1.2.4 System Effectiveness Monitoring

General Mills shall propose in the Plan the details of a program to monitor the effectiveness of the Carimona pump-out system. The effectiveness of the Carimona pump-out system shall be monitored by measurements of water level in the wells specified in Section 1.3 of Part II of this RAP and by collecting and analyzing ground water samples from the network of Carimona monitoring wells specified in Section 1.4.2 of Part II of this RAP.

1.3 Effluent Limitations of Water Discharge

General Mills shall use a Best Professional Judgment (BPJ) of Best Available Technology Economically Achievable (BATEA) level of treatment, the RAP shall consist of the following:

1.3.1 Glacial Drift Well 109

A pump shall be installed in the glacial drift Well 109 near the absorption pit at the southeast corner of the General Mills site. This pump shall discharge water from this well

continuously at about 50 gallons per minute (gpm) or the maximum sustainable yield up to 75 gpm to the water treatment system. (See Section 1.3.5 of Part I).

1.3.2 Carimona-Platteville Well 108

A pump shall be installed in the Carimona-Platteville Well 108 near the absorption pit at the southeast corner of the General Mills site. This pump shall discharge water from this well continuously at about 50 gpm or the maximum sustainable yield up to 75 gpm to the water treatment system. (See Section 1.3.5 of Part I).

1.3.3 Glacial Drift Well 110.

A pump shall be installed in a new glacial drift Well 110 located in the vicinity of Como Avenue and 20th Avenues. This pump shall discharge water initially from this well at 50 gpm, or the maximum sustainable yield up to 75 gpm, to the storm water drainage system along Como Avenue. The water discharged from this well shall be sampled twice a month for three months and analyzed for TCE. If after three months of initial operation of this pump the concentration of TCE is more than 500 ug/l, General Mills shall prepare and submit a plan to the MPCA Director for discharging this water from Well 110 through a pipeline to the water treatment system on the General Mills site described below in paragraph 1.3.5. Construction of this pipeline shall be completed and in operation within three months after the necessary permits are obtained from the city of Minneapolis and the Burlington

Northern Railroad and after the approval of the pipeline plan by the MPCA Director and the ground is free of frost.

If after three months of initial operation of this well the concentration of TCE in the water discharge is 500 ug/l or less, the water may be discharge to the storm water drainage system.

1.3.4 Glacial Drift Wells, 111, 112 and 113

Pumps shall be installed in each of up to three (3) new glacial drift Wells 111, 112 and 113 to be located in the vicinity of Brook Avenue and 17th Avenue, and Rollins Avenue and 17th Avenue and 18th Avenue southeast as required to intercept the existing 270 ug/l contour for TCE in the glacial drift aquifer. Each of these pumps shall discharge water from these wells continuously at about 50 gpm or the maximum sustainable yield up to 75 gpm to the storm water drainage system in the vicinity of the wells. Construction of this pipeline shall be completed and in operation within three months after the necessary permits are obtained from the City of Minneapolis and the Burlington Northern Railroad and the approval of the pipeline plan by the MPCA Director and the ground is free of frost.

1.3.5 Water Treatment System

The water treatment system for water pumped from Wells 108 and 109, and 110 if required by Section 1.3.3 of Part I of this RAP, shall be located near the absorption pit at the southeast corner of the General Mills site. It shall consist

of a stripping column for air stripping volatile organic compounds (VOC) from water from Wells 108 and 109, and 110 if required by Section 1.3.3 of Part I of this RAP. The column shall be designed for 99% removal of total VOC based on pilot plant stripping tests of water from Well 108 and 109 at a total water discharge rate of about 150 gpm and using at least 3,000 SCFM of air. The treated water effluent shall discharge to the storm water drainage system on Talmage Avenue. This treatment system initially is expected to remove 98% of total VOC, with a daily minimum of 95% removal, but will not be required to produce an annual average effluent of less than 50 ug/l of TCE of a daily maximum of less than 100 ug/l of TCE. The air exhaust from the column will be discharge to the atmosphere at an elevation of not less than 25 feet above the ground.

Approval of detailed plans for the RAP and the subsequent draft of a National Pollution Discharge Elimination System (NPDES) permit submitted for public comment and any required air discharge permit from the MPCA shall be based on the above technology based conditions.

1.4 NPDES Permit Application

General Mills shall apply for and obtain an NPDES permit for the discharge of ground water from the glacial drift and Carimona pump-out systems. General Mills has submitted to the MPCA Director as part of the Plan an application for such NPDES permit. General Mills has included in the permit application the information generated pursuant to Section 1.3 of Part I of this RAP.

2.0 IMPLEMENTATION OF REMEDIAL ACTIONS

General Mills shall implement the Ground Water Pump-Out System Plan as approved by the MPCA Director and in accordance with the concepts set forth in Section 1.0 of Part I of this RAP.

General Mills shall complete construction of the glacial drift pump-out wells, Carimona pump-out well, and the water treatment system as required by the Plan as approved by the MPCA Director and shall commence pumping within 180 days of issuance of the NPDES permit contemplated in Section 1.4 of Part I of this RAP or of the date the Plan is approved by the MPCA Director, whichever is later.

Termination of the ground water pump-out system in the glacial drift and the Carimona shall be governed by Part BB. of the Order.

3.0 MAGNOLIA REMEDIAL ACTIONS

On or before March 1, 1987 as part of the 1986 Annual Monitoring Report specified in Section 1.9.2. of Part II of this RAP, the water quality and water levels in the Magnolia unit shall be assessed to determine if the Carimona pump-out system has had any effect on the water quality in the Magnolia unit. The Magnolia data shall be reviewed to determine the extent of and the utility of the impact on the aquifer. If the pumping of the Carimona does not indicate either effective contaminant containment or contaminant removal in the Magnolia, remedial actions for the Magnolia, including increased pumping rates for the Carimona wells, shall be investigated and a proposal for remedial action shall be submitted to the MPCA Director along with the 1986 Annual Monitoring Report. Upon approval of the Remedial Action Plan by the Director, General Mills shall apply for an NPDES permit, if necessary, within 30

days and implement the remedial action plan within 90 days of receipt of an NPDES permit or upon receipt by General Mills of notification of approval.

On or before March 1, 1988 as part of the 1987 Annual Monitoring Report specified in Section 1.9.2 of Part II of this RAP, General Mills shall provide a summary of all the TCE data collected in the Magnolia Unit of the Platteville Formation (Magnolia) monitoring described in Section 1.6 of Part II of this RAP. If the original Carimona pump-out system, or any additional remedial action instituted pursuant to the preceeding paragraph, has resulted in TCE levels of less than 27 ug/l, no further action will be required by this Part for the Magnolia formation.

However, if the TCE concentration in ground water drawn from any of the wells in the Magnolia Unit shows a TCE concentration of 27 ug/l or greater, General Mills shall propose by March 1, 1988 remedial actions for the portion of the Magnolia with concentrations in excess of 27 ug/l of TCE for the MPCA Director approval in accordance with the concepts set forth herein for the Carimona, except no water treatment will be required for the Magnolia, pursuant to Part E. of the Order.

The Magnolia remedial action proposal shall provide for a Magnolia ground water pump-out system comparable to the Carimona ground water pump-out system specified in Sections 1.2.1 through 1.2.4 of Part I of this RAP.

General Mills shall apply for an NPDES permit or modification of the NPDES permit received pursuant to the Section 1.4 application to the MPCA Director as part of the March 1, 1988 proposal for Magnolia remedial actions. General Mills shall also commence remedial actions

required in the Magnolia within 90 days of issuance of the NPDES Permit or modification referred to in this section.

PART II -- GROUND WATER MONITORING PROGRAM

INTRODUCTION AND PURPOSE

The purpose of the ground water monitoring program is to: (1) monitor the effectiveness of the ground water pump-out systems; (2) define changes in the distribution of volatile organic hydrocarbon concentrations listed in Attachment C to this RAP after this RAP is implemented; and (3) determine when operation of the pump-out system can be modified or terminated.

1.0 MONITORING PROGRAM

This Section describes the monitoring well network, sampling frequency, and analytical parameters that shall be used in the ground water monitoring program.

1.1 Analytical Parameter List

General Mills shall analyze samples collected as part of the ground water monitoring program for the volatile organic hydrocarbons listed in Attachment C to this RAP pursuant to the time schedules established in Sections 1.4 through 1.6 of Part II of this RAP.

1.2 Quality Assurance/Quality Control Plan

General Mills shall submit within 90 days of the effective date of the Order a proposed Quality Assurance/Quality Control Plan (QA/QC Plan) to be utilized in implementing the monitoring program. The proposed QA/QC Plan shall be prepared so as to be consistent with the requirements of the U.S. EPA's Contract Laboratory Program. The proposed QA/QC Plan shall specify the procedures for:

- a. sample collection;
- b. chain-of-custody;
- c. calibration in terms of accuracy, precision, and references (the QA/QC Plan shall also specify the number of times and intervals at which analysis equipment will be calibrated);
- d. laboratory analytical methods, including methods for ensuring accurate measurements of data in terms of precision, accuracy, completeness, and comparability;
- e. reporting;
- f. internal quality control;
- g. audits;
- h. preventive maintenance;
- i. corrective action; and,
- j. routine assessment of data precision, representativeness, comparability, accuracy, and completeness of specific measurement parameters involved.

1.3 Water Level Monitoring

General Mills shall measure water levels to the nearest 0.01 of a foot prior to the collection of each ground water sample required in this RAP. Water levels shall be measured in all existing monitoring wells and in the pump-out wells once every two (2) months during the first year of monitoring. The locations of the existing monitoring wells and proposed pump-out wells are shown in Attachment A to this RAP.

1.4 Operational Monitoring

The monitoring program described in this section shall be used by General Mills during the time the glacial drift or Carimona pump-out systems are operational.

1.4.1 Glacial Drift Monitoring

1.4.1.1 Monitoring Well Network.

The glacial drift monitoring well network shall include those wells numbered 1, 3, 4, and 107, and those wells lettered B, H, J, Q, R, S, T, U, V, W, X, Y, and Z. The locations of these wells are shown in Attachment E to this RAP.

1.4.1.2 Sampling Frequency.

General Mills shall collect samples from the glacial drift monitoring well network specified in Section 1.4.1.1 of Part II of this RAP and each glacial drift pump-out well once every two (2) months for the first year of monitoring commencing in accordance with the implementation schedule specified in Section 2.0 of Part II of this RAP.

1.4.1.3 Monitoring Parameters.

General Mills shall analyze all glacial drift ground water samples collected pursuant to Section 1.4.1.2 above for the compounds listed in Attachment C to this RAP on the 2nd, 6th, and 10th months and only TCE on the 4th, 8th and 12th months for the first year of monitoring.

1.4.2. Carimona Monitoring

1.4.2.1 Monitoring Well Network

The monitoring well network for the Carimona shall be Wells BB, II, LL, RR, SS, UU, WW, 8, 9, 10, 11,

12, and 13 located as shown in Attachment E to this RAP.

1.4.2.2 Sampling Frequency

General Mills shall collect samples from the Carimona monitoring well network specified in Section 1.4.2.1 of Part II of this RAP and the Carimona pump-out well(s) once every two (2) months during the first year of monitoring commencing in accordance with the implementation schedule specified in Section 2.0 of Part II of this RAP.

1.4.2.3 Monitoring Parameters.

General Mills shall analyze all Carimona ground water samples collected pursuant to Section 1.4.2.2 above for the compounds listed in Attachment C to this RAP on the 2nd, 6th, and 10th months and only TCE on the 4th, 8th and 12th months for the first year of monitoring.

1.5 Post-Operational Monitoring

As described in Sections 1.1.3 and 1.2.3 of Part I of this RAP, operation of the glacial drift and/or Carimona pump-out system may be adjusted to terminate operation of pump-out wells where the ground water monitoring data show that the concentration of TCE in the ground water has been reduced below the levels specified in Section 1.1.3 and/or 1.2.3 of Part I of this RAP. The frequency of sampling shall remain as set forth in Section 1.4 of Part II of this RAP for the remainder of that monitoring year. Any changes in the glacial drift

and/or Carimona ground water monitoring program shall be proposed by General Mills in the annual monitoring report as specified in Section 1.9.2 of Part II of this RAP.

1.6 Magnolia Monitoring

1.6.1 Monitoring Well Network.

The monitoring well network for the Magnolia shall be Wells QQ, OO, TT, VV, and ZZ, located as shown in Attachment E to this RAP.

1.6.2 Sampling Frequency.

General Mills shall collect samples from the Magnolia monitoring well network specified in Section 1.6.1 of Part II of this RAP once every two (2) months during the first year of monitoring commencing in accordance with the implementation schedule in Part 2.0 of Part II of this RAP.

1.6.3 Monitoring Parameters.

General Mills shall analyze all Magnolia ground water samples collected pursuant to Section 1.6.2 above for the compounds listed in Attachment C to this RAP on the 2nd, 6th, and 10th months and only TCE on the 4th, 8th and 12th months for the first year of monitoring.

1.7 St. Peter Monitoring

General Mills shall, within sixty (60) days of the effective date of this Order, submit a proposal to continue an investigation of the extent of ground water contamination in the St. Peter Formation and submit a proposed St. Peter Monitoring Plan to the MPCA Director for modification and approval pursuant to Part F. of the Order.

The proposed St. Peter Monitoring Plan shall contain the following Sections:

1.7.1 Monitoring Well Network

In addition to the existing St. Peter dewatering well constructed by the City of Minneapolis located in the vicinity of the intersection of Como Avenue and 19th Avenue S.E., and the St. Peter monitoring well constructed by General Mills in the vicinity of the intersection of Kennedy Street and Hoover Avenue S.E., General Mills shall construct two (2) additional St. Peter monitoring wells. The location of these two wells shall be generally southwest of the soil absorption pit at the General Mills site and on either side of the contaminant plume in the Glacial Drift as shown on Attachment A to this RAP. One of these wells shall be located in the vicinity of the intersection of Elm Street S.E. and 19th Avenue S.E. and the other in the vicinity of the intersection of Como Avenue S.E. and 15th Avenue S.E.

1.7.2 Monitoring Well Design

The design for construction of the St. Peter monitoring wells shall be in accordance with the Minnesota Department of Health well code, and as outlined in "Specifications for St. Peter Monitoring Well Installation" for General Mills site by Barr Engineering Co., dated July 1984 for the existing St. Peter monitoring well in the vicinity of the intersection of Kennedy Street S.E. and Hoover Avenue S.E.

1.7.3 Sampling Frequency

General Mills shall propose in the St. Peter Monitoring Plan the frequency for collecting ground water samples from the St. Peter monitoring wells. At a minimum, the St. Peter monitoring wells shall be sampled once every two (2) months during the first year of monitoring commencing in accordance with the implementation schedule specified in Section 2.0 of Part II of this RAP.

1.7.4 Monitoring Parameters

General Mills shall analyze all St. Peter Formation ground water samples for the compounds listed in Attachment C to this RAP on the 2nd, 6th, and 10th months and only TCE on the 4th, 8th, and 12 months for the first year of monitoring.

1.7.5 Monitoring Well Installation

General Mills shall complete installation of the St. Peter monitoring wells within thirty (30) days of the MPCA Director's notification of approval of the St. Peter Monitoring Plan.

1.7.6 Report

General Mills shall within sixty (60) days after completion of the first year of monitoring the St. Peter wells, prepare and submit a St. Peter monitoring report to the MPCA Director detailing the data and results of the St. Peter monitoring. This report shall present all data, analytical results, boring logs, and shall include a discussion of the extent and magnitude of contamination by compounds listed in Attachment C to this RAP in the St. Peter Formation, attributable to the General Mills site.

1.8 Bedrock Well Monitoring

The existing Prairie du Chien/Jordan well owned by the Henkel Corporation on the General Mills site shall be sampled by General Mills once each year. Samples shall be analyzed for the compounds listed in Attachment C to this RAP. Monitoring of the ground water in the Prairie du Chien/Jordan well on the General Mills site shall continue for as long as the Carimona and/or Magnolia pump-out systems are operated.

1.9 Reporting

1.9.1 Monitoring Reports.

General Mills shall submit the analytical results to the MPCA Project Leader by the fifteenth day of the month following completion of all analyses of samples taken during the previous bimonthly sampling period.

1.9.2 Annual Monitoring Report.

General Mills shall submit an annual monitoring report for the previous calendar year to the MPCA Project Leader on or before March 1, 1986 and each March 1 thereafter from the effective date of this Order until this Order is terminated.

Each annual report shall contain the following information.

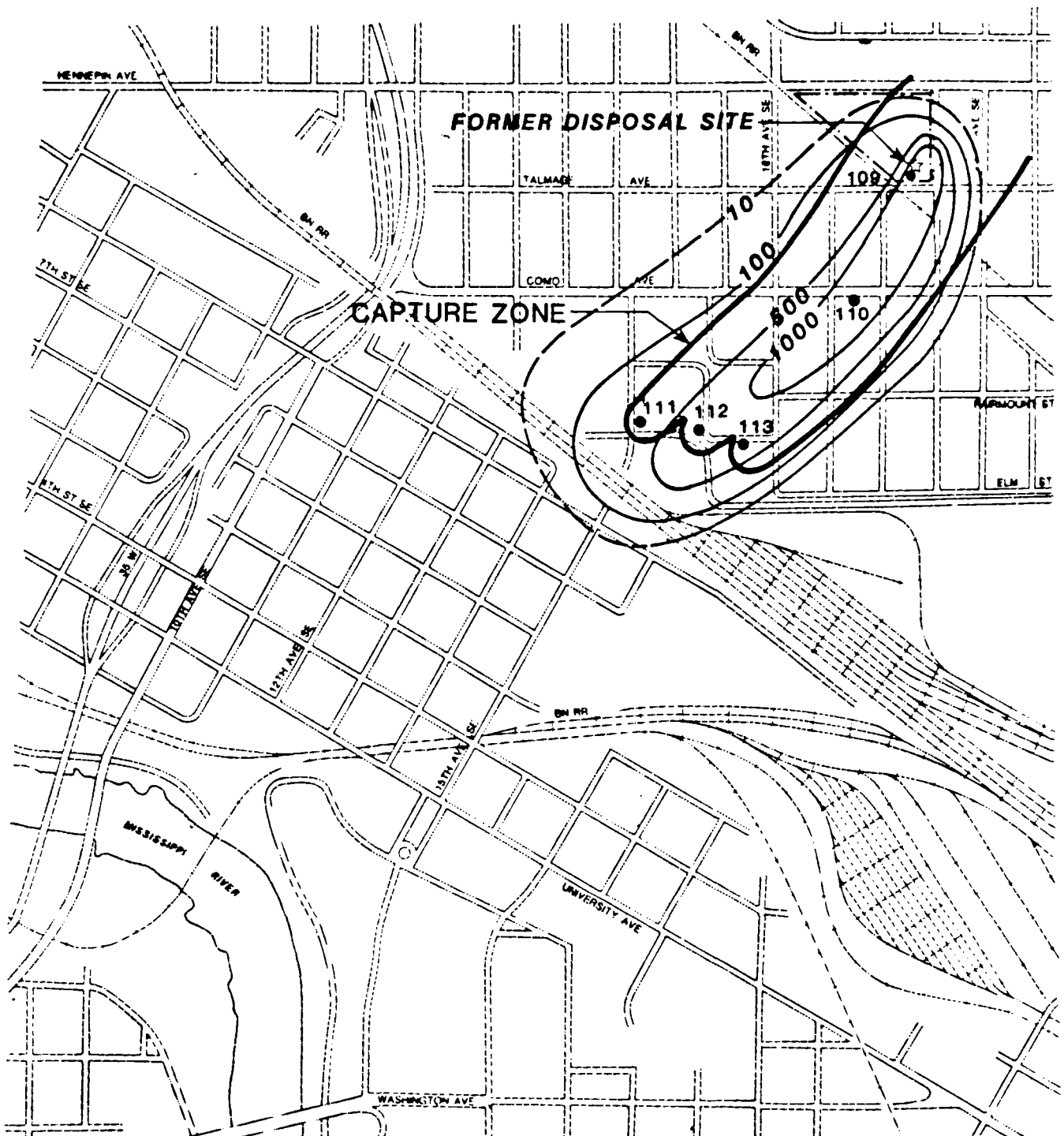
- a. results of all water level measurements and chemical analyses for the previous calendar year.
- b. water level contour maps for each formation showing high and low ground water levels;

- c. maps showing the sum of the compounds listed in Attachment C to this RAP analyzed for at each well location for each sampling event and maps showing the TCE concentrations analyzed for at each well location for each sampling event;
- d. a proposed sampling plan for the next monitoring year with an assessment of the monitoring parameters and frequencies and the feasibility for the deletion of monitoring wells or parameters or a decrease in sampling frequency.
- e. a discussion and summary of the reporting year's data in comparison to previously available data.

2.0 IMPLEMENTATION OF MONITORING PROGRAM

General Mills shall implement the ground water monitoring program described in Section 1.0 of Part II of this RAP, in accordance with concepts set forth in said Section 1.0.

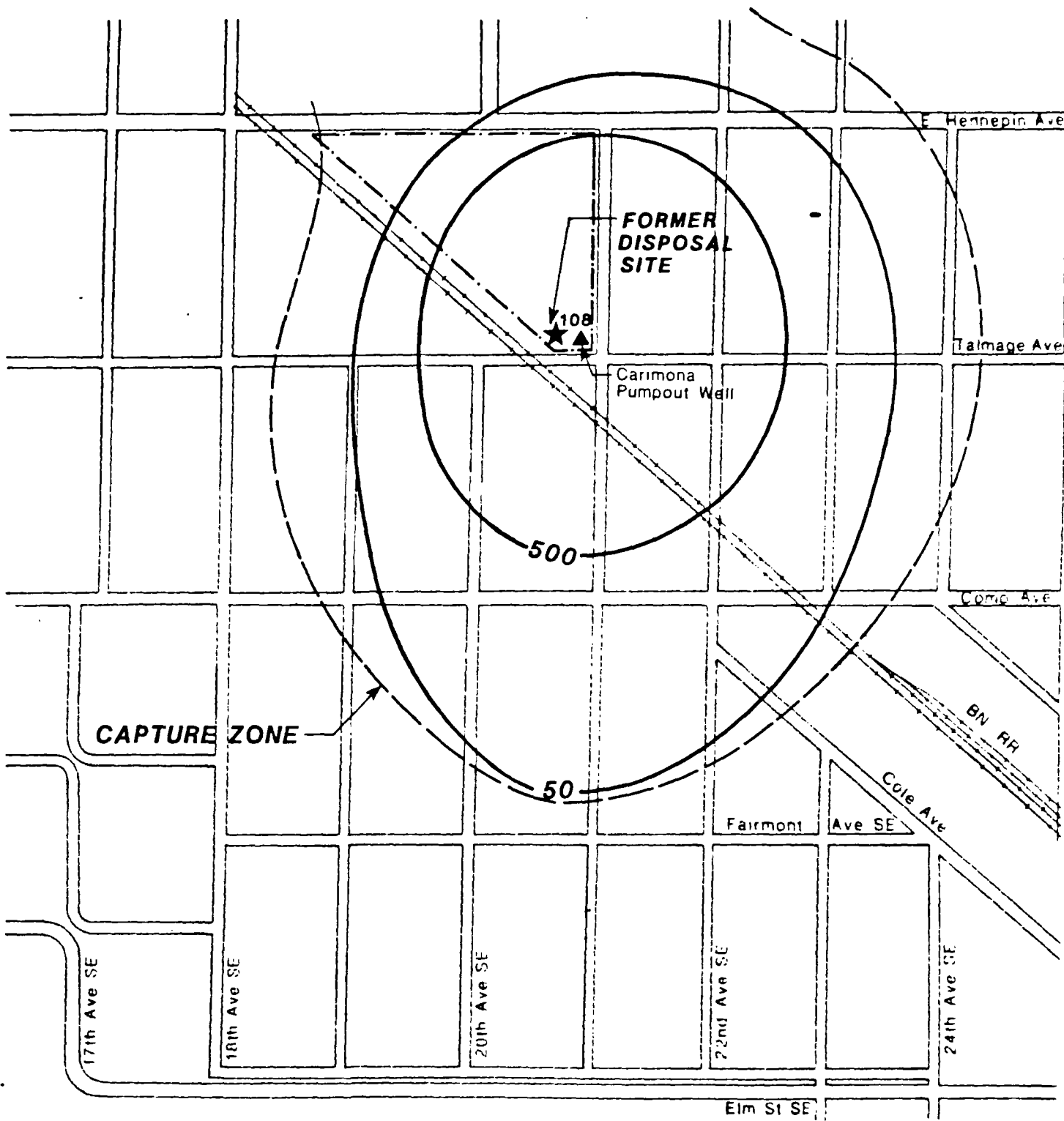
General Mills shall commence the first year's monitoring of the ground water as specified in Sections 1.4 through 1.8 of Part II of this RAP within 180 days of issuance of the NPDES permit or of the date the Plan is approved by the MPCA Director, whichever is later.



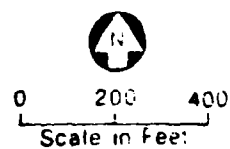
- Glacial Drift Pump-out Well
- 50 — Contour of the Sum of Organic Volatile Concentrations (ug/L)

0 500 1000
Scale in feet

ATTACHMENT A
GLACIAL DRIFT
PUMP-OUT SYSTEM



— Contour of the Sum of the
Volatile Organic Concentrations (ug/L)



ATTACHMENT B
CARIMONA
PUMPOUT SYSTEM

ATTACHMENT C

ANALYTICAL PROGRAM PARAMETERS

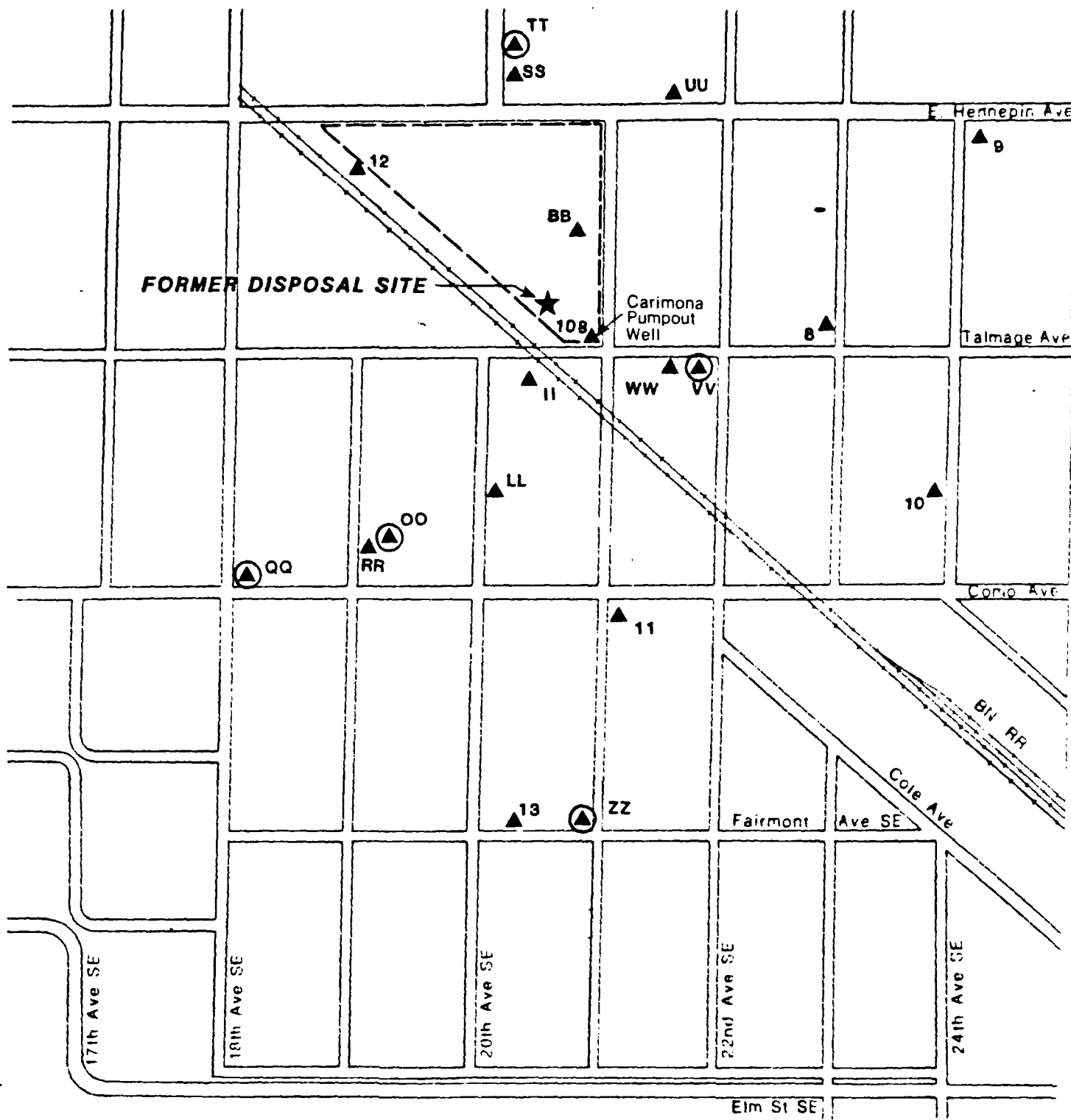
Chlorinated Volatile Solvents

1,1-Dichloroethane
1,2-Dichloroethane
1,2-Dichloroethylene, cis
1,2-Dichloroethylene, trans
1,1,2,2-Tetrachloroethane
Tetrachloroethylene
1,1,1-Trichloroethane
Trichloroethylene

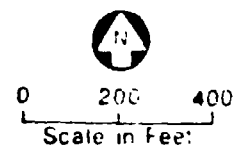
Non-Chlorinated Volatile Solvents¹

Benzene
Toluene
Xylenes

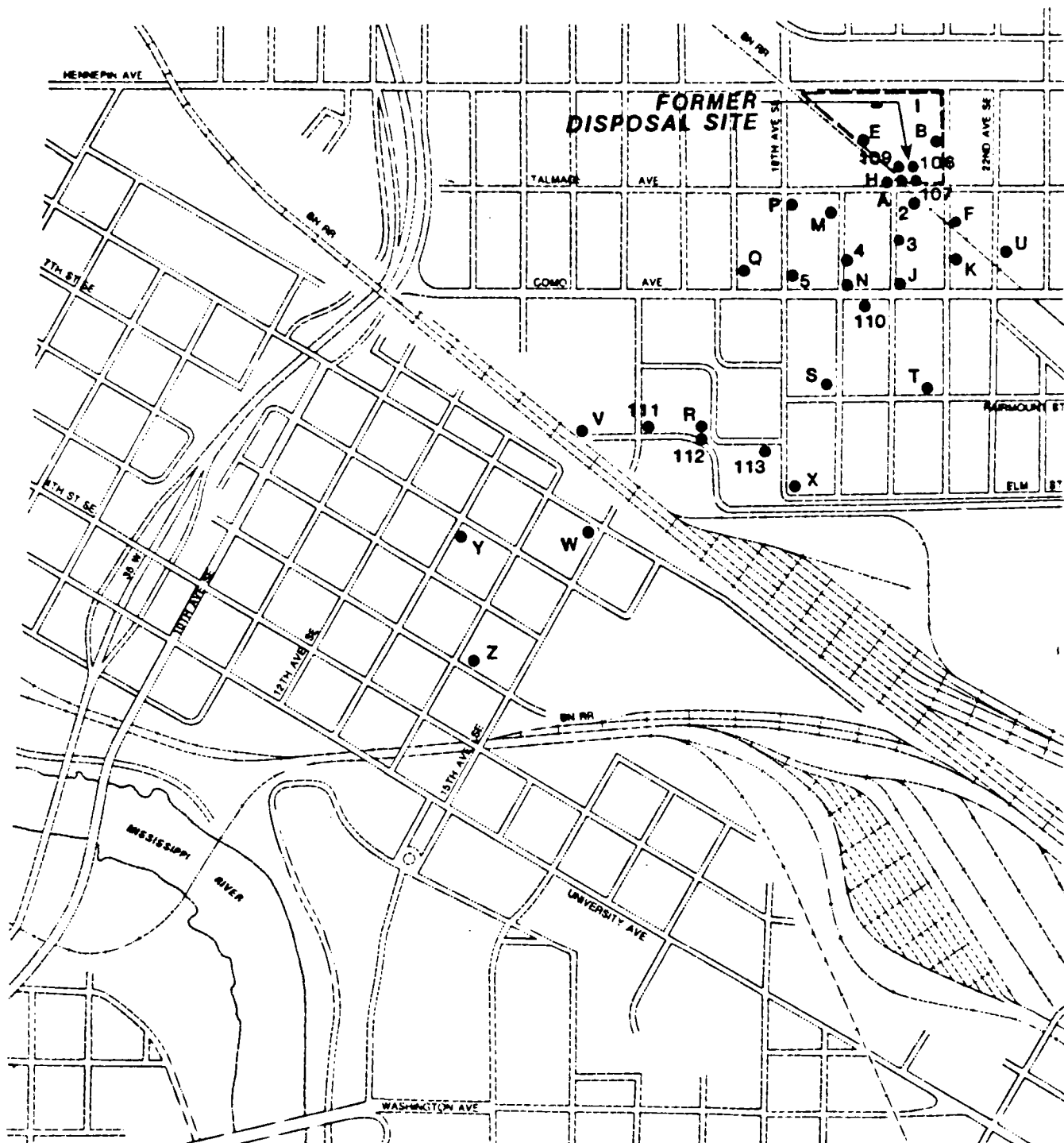
¹Analyzed only on samples from glacial drift.



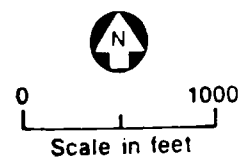
- ▲ Platteville Piezometer (Carimona)
- ⊙▲ Platteville Piezometer (Magnolia)



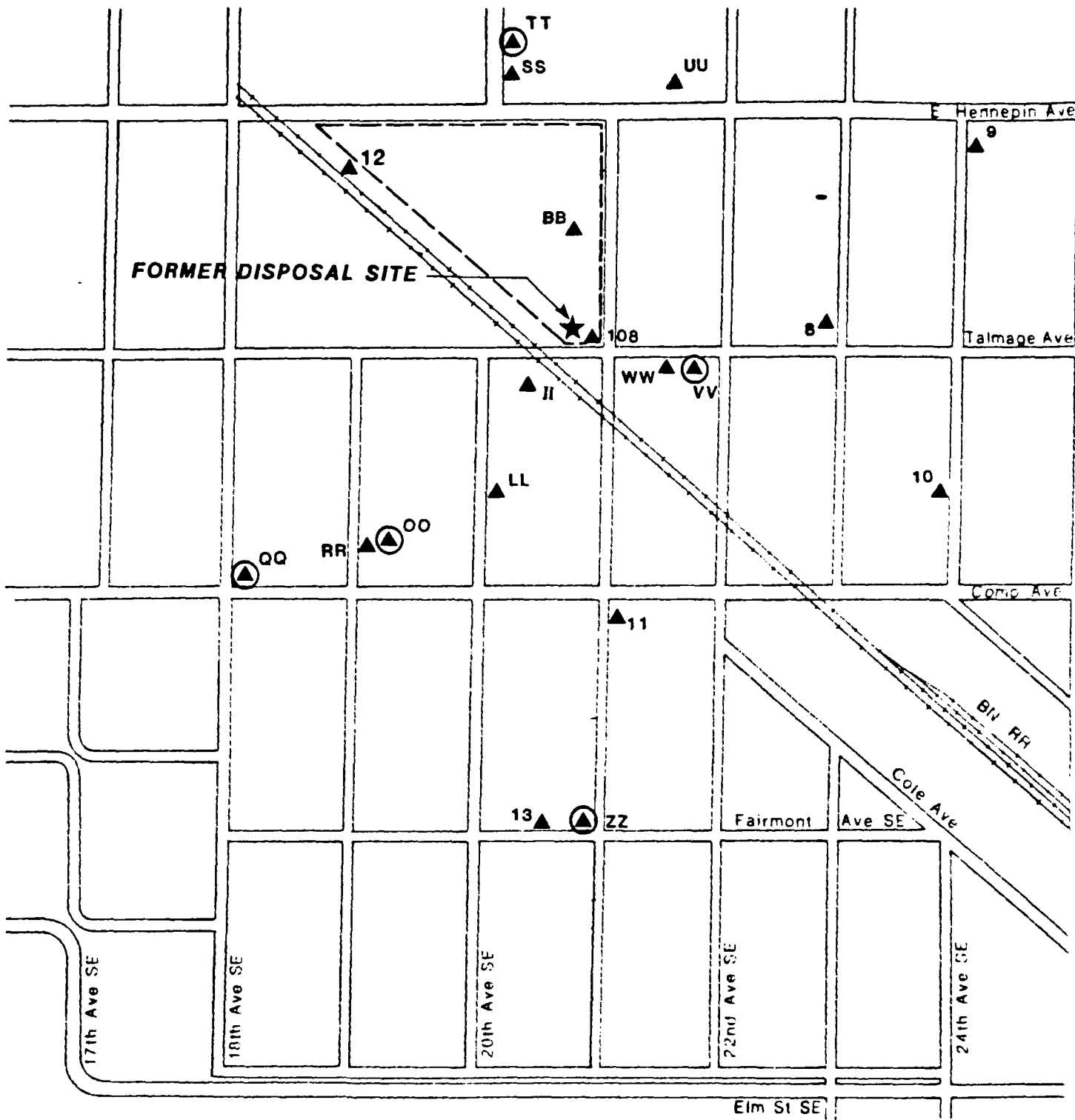
ATTACHMENT D CARIMONA & MAGNOLIA WATER LEVEL MONITORING WELLS



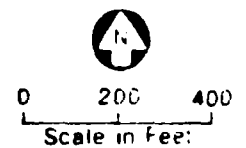
● Glacial Drift Wells



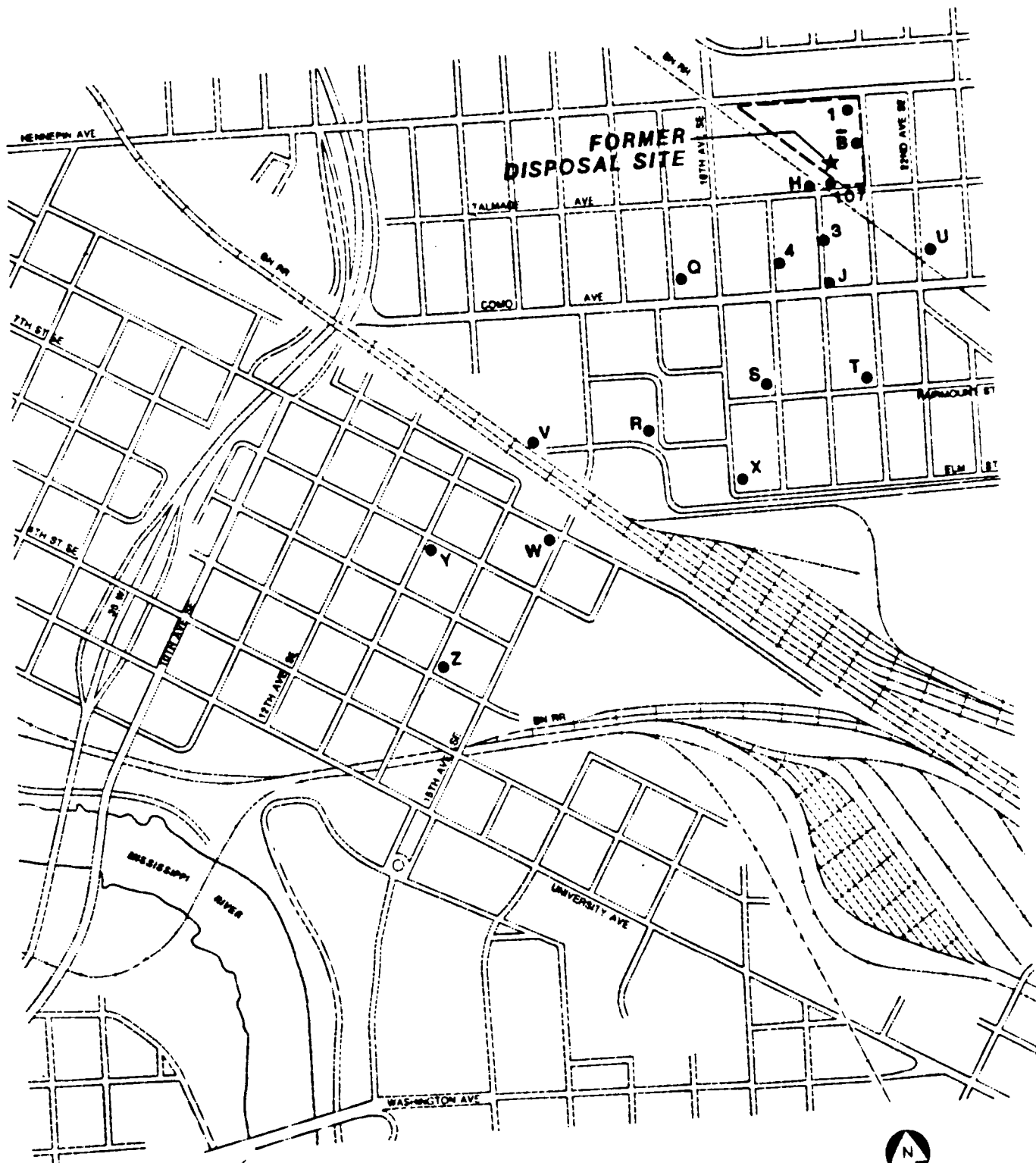
ATTACHMENT D (Cont.)
GLACIAL DRIFT WATER
LEVEL MONITORING WELLS



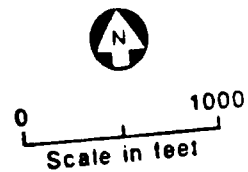
- ▲ Platteville Piezometer (Carimona)
- ⊙ Platteville Piezometer (Magnolia)



ATTACHMENT E CARIMONA & MAGNOLIA SAMPLING WELLS



● Glacial Drift Well



ATTACHMENT E (Cont.)
GLACIAL DRIFT SAMPLING WELLS